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Video Introduction

You have just finished loading your documents into your Blackboard course and you are wondering how to make your class more engaging. Many instructors want to make their classes more interesting for their students. Some believe by adding video it will make the online world more like their face to face experience course. Yes and no; this is exactly what this mini course will address.

How do I figure out if video really is the answer and what are my options? Much like adding any content piece you add to your class there is a process to pass though to make the cut before you drop it into your course. Video is just one type of content that can be helpful or hurtful to your course. The reason you choose certain content piece whether it is text, audio or video is because it clarifies the instructional piece for the student. What is the end result you want students to take away from this content?

Why choose video

Why choose video over other options?

If a picture is worth a thousand words then what is a video worth? What extra value does the video provide to the course? There are many valid reasons to want to use a video illustration over a text based (example). As one example a video of a procedure in a nursing course demonstrates the procedure exactly and can be viewed as often as a student needs to supplement for other course content. Here is a YouTube video on administering an injection. Notice the step-by-step explanation to support what is seen in the video. This instructor wanted to demonstrate and explain how to administer the injection to meet a specific learning outcome (the student will demonstrate how to administer an intramuscular injection). The other extreme would be the addition of video for no purpose in your course. If I added the video on the Wright Brothers at Kitty Hawk to the same nursing course with no explanation or visible connection to the content the video has added nothing to the understanding of the content.

Our options at TWU

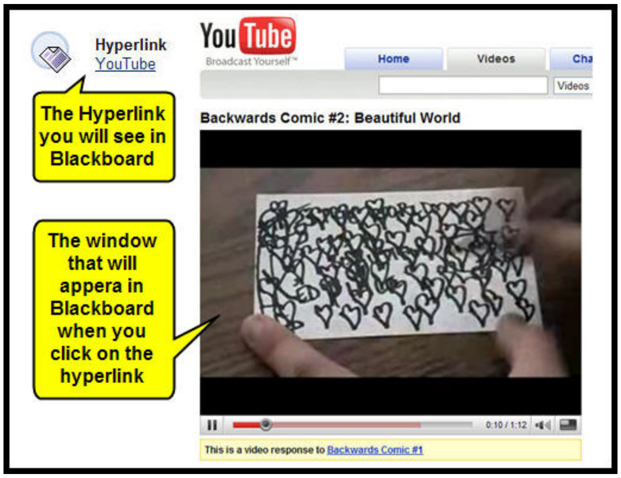
At TWU we have Blackboard as our learning management system. There are several ways to use Blackboard to place video into a distance course. We can embed the video into a content area or we can link to an outside location to view the video in a content area. To embed video is to physically insert the video file within a content area and it is then viewed within the Blackboard system. Linking to a video in Blackboard will open a new browser (Internet Explorer, Firefox or Safari) window to view the video outside the Blackboard system.

Technology Today

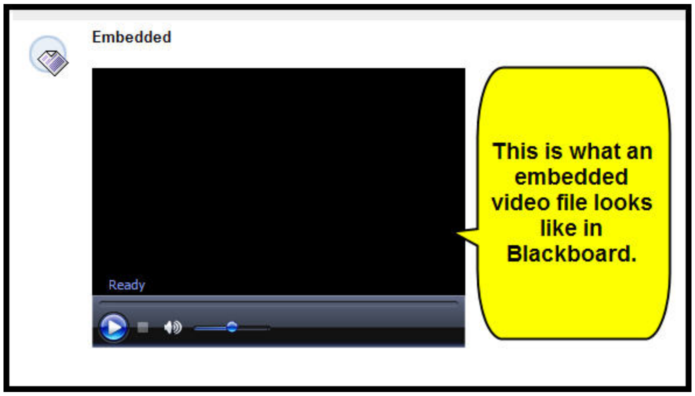
Ten years ago, if you wanted to have a video in your class, the options were fairly slim and probably confined to library holdings and your departmental budget. Today we can Google our topic and pick from hundreds of choices thanks to open source education. Many top universities are posting lectures, speeches, and other classroom video supplements to their websites free for the taking. YouTube.com has spawned a ready source of video content that is more than entertainment and TeacherTube.com has evolved from the YouTube style, with resources for the educator to use at no charge. So before you contact the video crew you may want to do a little surfing of the internet to see if the wheel has already been built. Linking to a resource that is already on the internet may cut down on a multitude of technical problems and save precious server space for the university. I have listed several resources of videos that you can use for your classes in the resources page.

So, you have looked for that video on the internet that will showcase your example and can’t find one that really does the job. OK, creating your own video is really not a problem but, we have to look at just what we need, such as formats and equipment, before starting the cameras rolling.

Example: Below is an example of how a linked video will look in Blackboard when it is launched:


Hyperlink
YouTube
YouTube Broadcast Yourself™
Home
Videos
Cha
Videos
Backwards Comic #2: Beautiful World
0:10 / 1:12
This is a video response to Backwards Comic #1
The Hyperlink you will see in Blackboard
The window that will appera in Blackboard when you click on the hyperlink

Below is what an embedded video file looks like in Blackboard:


Embedded
Ready
This is what an embedded video file looks like in Blackboard.

Video Formats

Formats - Need to know information

A quick primer on all things video to help you before you start your video production. There are a variety of different video formats available .mpg, .avi, .wmv, .swf, .mov, and .ram to name a few. These are all video files, the difference is mainly in the type of video player that will play the video.

At TWU our desktop computers and the lab computers are fairly restricted in the types of available video players. The default video player here at TWU is Windows Media Player and its default file format is the .wmv file. Windows Media Player will play all of the files listed above with the exception of the ram. or Real Video Format. The Real Video Format will only be played with the RealPlayer, which must be downloaded to the local machine. The majority of file formats can be seen here on campus. Information should be provided to distance learners in your technology resources statement to include the type of video player that will be needed to view files in your course.

In the technology requirements you will want to cover the need for the correct media player to access the media files in your course. For the students with the PC's they will need a player that will play the recommended .wmv files. The most popular is the Windows Media Player that comes with the PC but many other players will access the .wmv file as well. For the MAC platform students the default player is the Quicktime player and it does not access .wmv files. So they will either have to download an additional player that will access the .wmv file or use a file format that can be accessed by the PC and the MAC. There are a few file formats that can be accessed by both players, the most common formats are the .avi or .mpg files. These files will work for either default player but have different file sizes that may be prohibitive. Files sizes will be covered in the next module.

It is recommended that all content, including video, be in a common format for viewing by the students. If your video is not in the correct format (.wmv) there are different ways to convert the video file to the correct format. You can download a free converter application from the web. One of these free applications can be found at the Prism website and is easy to use. You can also go to the The Technology Resource Center on the second floor of the MCL building located just beyond the Mega lab and the staff can help you convert your video files to the correct format.

A test run should be done on several computers to make sure the video clip can be seen prior to the start your class. Not all students have their own computers and must depend on work or school computers. Most schools and some employers have security filters in place to restrict the viewing habits of the computer users. YouTube is a site that is frequently blocked from the user. You will want to note this in the technical requirements of your course. Make sure that a statement in your technical requirements outlines the need to have a media player for PC to access .wmv files and for the MAC a player that will access .wmv or .mov files.

Video Size

Size - Introduction

After we have decided on the appropriate format (.wmv) to view our video clip we need to consider the size of the video file we are going to view. We look at the size of the video file to help us to make the decision to play the video within Blackboard or link to a host on an external web site outside Blackboard.

Size Terms

There are a couple of terms that you may have heard that will help simplify the mystery of video lingo. One is server space or servers. Servers, like our computers, have a limit to what they can hold. A server, unlike your desktop, is not a plug-and-play device, so the standard solution of buying another server to store more files is not as simple as we would like. Servers are expensive and must be maintained.

Bandwidth is the rate at which data or files are being transferred between computers and servers. Small files transferred along the route from server to computer are not much of a strain on the system. But, when 100 students download large video files along the same route at the same time, the transmission speed is going to move as quickly as Dallas traffic on a Monday morning.

The next term that will give you a little more clarity is streaming video. If you have watched a video online you have probably noticed that some videos play right away while others wait for the entire file to download before being available for viewing. The video that plays right away is utilizing streaming video, the technology which allows the video file to start while it continues to download the file in the background. All video files can take advantage of the streaming video process. Sites such as YouTube, TeacherTube, or CNN use the streaming video process.

Armed with the new terms, let’s talk about video size and the best way to serve our students a large video file. The Blackboard information is not located on the TWU servers; Blackboard servers in Maryland are used. Why not load those large files and use their servers? Well, that’s where the bandwidth issue may play into the equation. The Blackboard information still runs through the TWU servers if the students or faculty members are on campus when they are accessing the files in Blackboard. All users also authenticate (are recognized by the system as a valid user) using TWU servers. Anything that passes through the campus resources impacts the rate of transmission. Blackboard also does not use streaming video to process media files; which means the student has to wait for the entire file to download before it starts to play.

End User Considerations

The end-user is the key when considering where to host the video file. The student on campus has high speed Internet access and the download time for files is rather fast. High speed internet has become common for home use as well. However, there are many end-users who are still tethered to the dial up version of the Internet due to restriction on where they live or their budget. Rural areas are still not connected to a high speed Internet service through phone or their cable providers. A quick example to illustrate the differences is to look at the download time for a 2.5 mb. video file. The dial-up user will wait for over 6 minutes for the file to completely download. A student using a TWU computer or using high speed Internet at home will wait a mere 2-14 seconds for the same file to completely download.

Wrap Up

Let’s put it all together. A small video file can easily be inserted into the Blackboard course without drawing on the TWU servers or on the student download time. If I have a video that can be found elsewhere on the Internet and can hyperlink to that web site; or if I have created my own video that can reside on a hosted external site (YouTube or TeacherTube) that uses the streaming video process, my students and TWU will benefit the most.

If you have any questions on the process please get with your Instructional Design Specialist to help guide you in the right direction

Video Equipment

Equipment - Introduction

If you have a specific video in mind to use in your course and can’t find one that already exists on the Internet, making your own video may be the best option. Let’s start with what types of cameras are available and what their options are and that may help to answer what type of equipment will meet your goals.

The Webcam

The webcam is the very basic model of video recording technology, a webcam can cost from $15 to $90. And the camera for the most part will stay attached to your computer, even though there are some webcams that can be taken with you. Most webcams today are in the $15 to $20 range and are using a very low resolution for viewing the video and a fixed viewing screen of 320 x 240 pixels, which is a minimal screen size on average. The options are extremely limited if any, for the low level webcam to change the resolution or size of the video output. The upside is that it is very easy to use and produce small video files for the purpose of getting information out to the students in a timely fashion.

The high end webcam has the same ability as the low end webcam but, the webcam has options for a better quality screen resolution and some options for the size of the viewing screen. One webcam had a screen size range up to 960 x 720 pixels (for most of us that would fill our entire screen), had face tracking options and was able to take still shots and the webcam could be taken from the computer area as a hand held video camera. The downside of this is you have more editing features to learn and the file sizes will increase in size as the quality of the production grows.

The Handheld Video Recorder

The next option is the handheld video recorder and they run $100 and up. The first video camera to consider is in the $100 - $150 range. There are several video cameras on the market that are available in this price range and will serve as a segue from the webcam to the full blown handheld video recorder. The FlipVideo style is a small handheld recorder that is the size of an Iphone or Treo style phone. The FlipStyle video recorder is very limited in the options it has but, is more flexible than the webcam. The FlipVideo stlye is made to travel and can easily upload your video to your computer with no addition cables or software. The FlipVideo style has a usb connection built into the camera. Unlike the webcam, the FlipVideo has a hard drive in the camera so you can record many videos and save them until you are ready to upload wherever to a computer. The software is loaded on the video cameras hard drive so you won't have to install the application on every computer you use.

Again a great portable recording device that can produce videos on the fly without having to carry extras cables or editing software to upload, and the ability to view your videos for a reasonable price that won't break the bank.The next handheld video recorder you may want to consider for the more polished production is a video recorder that has more memory built in and can produce a better quality video. There are plenty of competitors vying for your dollars but, a little information allows you to eliminate most the cameras in this field. Since most of us are on a budget of some sort, it is best to have a price range in mind to help initially pare the range of possible models. Then decide on the types of projects you will be doing and visualize the end product so that your camera can meet the needs but, also that you don't spend money on options that you will never use.

Analog, Digital or High Definition

We have several output options to consider when purchasing a video camera. Analog is the video camera that would take some sort of tape to record the video. These cameras are quickly being replaced by digital cameras but they still can be found and are quite inexpensive. Beware that this technology is obsolete and the materials, like replacement tapes updated software that accompany these cameras are harder to find.

The next two options are tricky in that both styles of cameras can produce a video that can be quickly and easily viewed. The major consideration for us at the university is that we will probably be manipulating the video in some form and need to concern ourselves with the file sizes and ease of editing of the end product.

The standard digital video camera has a built in hard drive for saving video files, and can be downloaded to your computer, and edited with the software application that comes with the camera. Before you decide to produce a video have to have the technology folks come over and load the appropriate application to your university computer and your university laptop. Most digital camera software applications have basic options to cut portions of your video out and allows you to add various video clips to compile a movie. Other rudimentary editing can be done depending on the manufacturer of the camera as some can add titles, transitions and even incorporate a soundtrack to your video file.

The ability to shoot long or multiple video files is only limited to the amount of memory i your camera. Most video cameras also have a memory card slot for additional memory.

The quality of the video output can be dealt with in two ways. The first is to use video settings. All cameras have setting that affect the output of the video. You will need to become familiar with your video camera settings to learn how to adjust the settings. Normally there are 2 or 3 quality settings to consider. I encourage you to consider the end video product and the time you have to produce the video before making your selections. My mode of operation is that I want the best video quality and select the high quality setting before I shoot. I can alter the quality of the video after I have it on the computer and use the software application to compress the video file size after I have the footage filmed. However once I have chosen a low quality setting for my video and filmed my project I can’t improve the quality after the fact.

Standard digital video is easy to use and edit. It also has many options to produce a variety of levels of quality video. You can produce a basic information style video recording as you would with your webcam. In time with practice, familiarity with your camera settings, and practice with your editing software - you can produce a high quality vide file.

The main difference is that the handheld recorder costs more and has a higher learning curve then the FlipVideo or webcam recorder. You will also have to consider the need for more peripheral equipment to accompany the higher priced video camera; such as a tripod, extra batteries, camera bag, cables and even an add-on microphone for better sound quality. So you have some logistical and monetary considerations for a higher priced video camera.

Not choosing the High Definition Video camera is hard to argue with when you’re in the store watching the crystal clear images of happy children romping in the back yard and seeing that the price is not much more than the standard digital camera. So what is the catch? Well, a couple things to think about before throwing down the credit card; the output of the video file is either straight to a DVD or to a computer file that has to be coded only by the video cameras software to interpret. Then the video file sizes are extremely large, to account for the clarity of the image. Currently there are not many editing software programs that are available for the novice to edit, and finally if I am not viewing the video on a high definition set I have lost all the advantages of the high definition video.

So considering there are no high definitions computer screens on campus or for the average citizen are you really going to need a high definition video recorder?

Some Final Thoughts

Some final thoughts

A quick recap of points to consider before you buy and produce your own video files. The top reason is if there is a video already made and is already out there use it, don't reinvent the wheel for a product that is available and ready to use.

Look at the end product first to see what parameters are going to guide your project on quality, size, format and the equipment you will need to accomplish the goal with the least amount of issues. Practice with your camera before your scheduled shoot to become familiar with the controls and how you camera reacts to different conditions, day, night, indoors, outside and lights or no lights. Look at the practice video and note the best outcomes.

What editing will I be doing to the video file and do I have the necessary computing power and knowledge to do it. I don't need to learn a new video editing application the day before I need to post my video. Most video editing software beyond the application that comes with your camera has a steep learning curve and also takes a huge amount of computer space and resources to edit your video. Are you ready for this?

The last thing to consider before you grab your camera and go is to get a written permission release or tape the participants stating they give you permissions to use their images and content for your project. Be specific in the scope of their release, if I tell them I am going to use this in a Blackboard course and that is all. I can't then use the same video and post it to YouTube without creating some conflict of the permissions given by the participants. Try to see all the ways you may want to use this video footage and include more than ample permissions to use the video. You may want to include a timeframe on when you will use the video file. You will want to also see what University policies there may be for videotaping on campus and within your class.

Well you are ready to go get your equipment and start shooting.

Video Resources

Resources

Merlot

Putting Educational Innovations Into Practice Find peer reviewed online teaching and learning materials. Share advice and expertise about education with expert colleagues. Be recognized for your contributions to quality education.

Nasa

Great videos for educational uses.

Library of Congress

Many great videos and other resources. A note that most videos are in RealPlayer Format.

YouTube

Great site, but many schools and employers have a security block on YouTube.com so students wont be able to access youtube from these computers.

TeacherTube

Same style as YouTube but geared specifically for educators.

Video Wiki Links

http://twuid.pbwiki.com/Video+Formats

http://twuid.pbwiki.com/Video+Size

http://twuid.pbwiki.com/Video+Equipment